


## HIGH EXTINCTION RATIO FIBER INTERFEROMETER

### ABSTRACT OF THE DISCLOSURE

A high extinction ratio interferometer is disclosed. The interferometer includes a first and second optical fiber each having a first end and a reflective end and an optical coupler for coupling the first optical fiber and the second optical fiber between their first ends and their reflective ends. The first optical fiber provides a first optical path from the optical coupler to its reflective end and back to the optical coupler and the second optical fiber provides a second optical path from the optical coupler to its reflective end and back to the optical coupler. The second path is greater than the first path by a delay length and the first path and the second path are each less than approximately 20 cm. The interferometer finds application as a differential phase shift keyed (DPSK) demodulator, particularly useful in a satellite system employing inter-satellite communication.

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